



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MA 02109-3912

Finalized Date: December 19, 2017

Subj: CAFO Inspection Report
Knoxland Farm

From: Denny Dart

Thru: Solanch Pastrana-Del Valle

To: File

I. Facility Information

- A. *Facility Name:* Knoxland Farm
- B. *Facility Location:* 356 Pratt Road
Bradford, Vermont 05033
- C. *Facility Contacts:* Paul Knox
Eric Senecal
Mary Pittman
- D. *NPDES ID Number:* None

II. Background Information

- A. *Date and time of inspection:*
Facility entrance: August 31, 2017, 12:00 pm
Facility exit: August 31, 2017, 4:00 pm
- B. *Weather Conditions:* Clear; mid-60's
- C. *US EPA Representative(s):* Denny Dart and Solanch Pastrana-Del Valle
- D. *State/Local Representative(s):*
Abigail Pajak, Vermont Agency of Agriculture, Food and Markets
(VT-AAFM)
- E. *Federally Enforceable Requirements Covered During the Inspection:*
CAFO requirements under the Clean Water Act at 40 C.F.R. Part 122.23.
- F. *Previous Enforcement Actions:*
No federal actions.

III. Type and Purpose of Inspection

Under a National Enforcement Initiative (“NEI”) aimed at preventing animal waste from contaminating surface and ground water, the U.S. Environmental Protection Agency (“EPA”) has committed to inspect Concentrated Animal Feeding Operations (“CAFOs”) in priority watersheds across the country. CAFOs are a subset of livestock and poultry animal feeding operations (“AFOs”) that meet the regulatory thresholds of a number of animals for various animal types. Animals are kept and raised in confined situations for a total of 45 days or more in any 12-month period and feed is brought to the animals rather than the animals grazing or otherwise feeding in pastures, fields, or on a range of land during the confined period. In addition to inspecting, EPA is testing new sampling methods to identify the sources of bacteria and nutrients in ambient waters.

The primary purpose of the EPA inspection was to collect samples for future analysis using the Phylochip method. In addition, the inspectors followed up on concerns highlighted in past EPA inspections, including:

- Possible discharge from the Barn 25 pens to the nearby stream.
- Possible commingling of roof run-off with manure from the pregnant cow barn (the barn just below Barn 25.)
- Possible discharge from the mortalities compost area.
- Possible discharge into a stream from the main barn.

IV. Facility Description

The Knoxland Farm property in Bradford slopes towards the north. Two streams run very near and under the production areas and then flow to the Connecticut River.

At the time of the inspection, the farm had 808 milk cows, 123 dry cows, 34 heifers and 37 calves. There were only 9 cows in the Dry Cow Barn 25 at the up-hill, south-most end of the property, where normally there are as many as 50 cows.

There are five structures on the Bradford property (from north to south):

- Barn 25
- Pregnant cow barn
- Mortalities compost shed
- South barn
- Main barn

Paul Knox owns about 1,040 acres in Vermont and New Hampshire, and approximately 100 acres are for pasture. The Nutrient Management Plan (NMP) was prepared by Tom Beaudry.

Proximity of Water Bodies

The farm is located about 2,800 feet (0.54 miles) west of the Connecticut River. A tributary to the Connecticut River flows downhill along the barns and under the main production area. Approximately 500 feet of the tributary flows underneath the production area. This tributary receives run-off from Route 91, before entering Knoxland property. (See maps and photos attached).

V. Inspection

Inspectors arrived at the farm at approximately 12:00 PM and showed credentials to Paul Knox, owner of Knoxland Farm. Abigail Pajak of VT-AAFM, met the EPA inspectors at the farm. Mr. Paul Knox and Mr. Eric Senecal guided the inspectors through the farm.

The inspectors began the inspection at the top of the hill at Barn 25. Mr. Knox demonstrated the PVC piping system designed to capture barn roof run-off and prevent it from washing over then pens. The PVC piping is hinged so that it can pivot out of the way to let the cows pass out of the barn. When the gate is closed, PVC piping diverts rain water from the roof to a plastic 55-gallon drum and via culvert to a stream on the far side of the dirt road.

Water flows down the hill from barn 25 to the swale that runs along the Pregnant Cow Barn. In order to keep rain water that runs down the slope east of the Pregnant Cow Barn from washing across the road, Mr. Knox installed a culvert under the road.

Mr. Knox has covered the mortality pile with a shed roof to prevent run-off to the stream which runs close by.

Solanch Pastrana-Del Valle accompanied Abigail Pajak on her inspection of the facility and review of the Nutrient Management Plan (NMP) with Eric Senecal. Denny Dart took samples, accompanied by Paul Knox. See photographs taken by Denny Dart.

Sample ID	Date	Collected by*	Description	Latitude	Longitude
VT 17-9	8/31/2017	SPD	Stream entering from Route 91 to Knoxland Farm	44° 07' 44.89" N	73° 20' 52.77" W
VT 17-10	8/31/2017	SPD	Stream entering from Route 5 to Knoxland Farm	44° 07' 49.58" N	73° 20' 51.13" W
VT 17-11	8/31/2017	DD	Tile drain pipe in Knoxland Farm	44° 07' 48.51" N	73° 20' 56.97" W
VT 17-12	8/31/2017	DD	Northeast corner of manure pit at Knoxland Farm	44° 08' 59.95" N	73° 19' 12.29" W

* DD = Denny Dart; SPD = Solanch Pastrana-Del Valle

VI. Outbrief

The slope of the land and proximity of streams to the production areas makes this a very challenging property to manage for protection of water quality. The EPA inspectors did not see the evidence of past discharge observed in previous EPA inspections. The stream

leaving the production area at the north end of the farm appeared free of algae, in contrast to past inspections.

The inspectors filtered and froze the samples taken at Knoxland Farm. Once the funds are available for analysis, EPA will share results with Mr. Knox and Abigail Pajak.